Iowa Department of Public Health
Promoting and Protecting the Health of Iowans

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Mumps Frequently Asked Questions - General Public

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What is the recommendation for a third dose of Measles, Mumps, Rubella (MMR)?
On November 6, 2015, the Iowa Department of Public Health recommended a third dose of MMR vaccine for University of Iowa students less than 25 years of age. No other Iowans are currently being recommended to receive a third dose of MMR vaccine.

Is there any danger in giving a 3rd dose of MMR vaccine?
No, it is safe to give a third dose of MMR vaccine. During outbreaks, a third dose of MMR can be helpful in controlling and stopping the spread of the mumps virus.

How long does it take to develop immunity to mumps following vaccination?
In general, it takes 10-14 days to develop immunity following the first dose of vaccine. Then it takes approximately seven days after the second dose to mount a robust immune response.

How is mumps spread? (What constitutes an exposure for mumps?)
Mumps is spread through droplets of saliva and respiratory secretions (e.g., coughs or sneezes). The potential for droplet (within three feet) contamination from nasal or oral secretions, or direct contact with saliva, when the case was in the infectious period and without the use of appropriate –personal protective equipment (i.e., gloves and mask), would be considered an exposure. Exposure is not dependent upon the duration of time a person was in contact with an infected individual. Contagiousness is similar to influenza and rubella, but is less than measles and varicella.

Should children under 12 months be given MMR vaccine?
No. Children under 12 months should have immunity from their mothers. At this time, IDPH is not recommending the first dose of MMR vaccine be administered younger than 12 months of age.

Should the 2nd dose of MMR vaccine be given earlier than 4-6 years of age due to the outbreak?
No, at this time, IDPH is not recommending administering the second dose early. However, it is acceptable to administer the 2nd dose 28 days after the first dose.

Why are cases occurring in vaccinated people?
There have been many questions about why people, who have been vaccinated, are getting mumps. MMR vaccine prevents most, but not all, cases of mumps and complications caused by the disease. People who have received two doses of the MMR vaccine are about nine times less likely to get mumps than unvaccinated people who have the same exposure to mumps virus. However, some

people who receive two doses of MMR can still get mumps, especially if more than 10 years have passed since their most recent dose of vaccine, and if they have prolonged, close contact with someone who has the disease. If a vaccinated person does get mumps, they will likely have less severe illness than an unvaccinated person. As you read through the examples that follow, keep these key points in mind:

- The mumps part of the MMR vaccine is about 88% effective after two doses.
- This means out of every 100 fully vaccinated people, 88 will be protected. However, the vaccine will not "take" in 12 people, and these people will remain susceptible to the disease.
- By comparison, the measles vaccine (also part of the MMR vaccine) is about 98% effective after 2 doses. The annual influenza vaccine is about 60% effective.

Example 1:

In a community of 100 people, 100% have been vaccinated. Everyone is exposed to mumps. What happens?

- *88 people (88%) in the community are protected by the vaccine and do not get mumps.*
- *12 people (12%) in the community become ill with mumps because the vaccine did not "take".*
- *Of the 12 people who get mumps, all (100%) have been vaccinated.*

Example 2:

In a community of 100, 96% have been vaccinated (a similar rate to what is being seen today in Iowa's K-12 schools and some colleges.) Thus 96 people are vaccinated and 4 people are not. Everyone is exposed to mumps. What happens?

- *84 people (88% of the 96 who are vaccinated) in the community are protected by the vaccine and do not get mumps.*
- *12 people (12% of the 96 who are vaccinated) become ill with mumps because the vaccine did not "take".*
- *4 people who have never been vaccinated get ill because they have no immunity to the disease.*
- *Of the 16 (12 vaccinated + 4 unvaccinated) people who get mumps, 75% (12/16) were vaccinated.*
- *Thus a large percent of the people with mumps have been vaccinated. This is expected in a highly vaccinated population when dealing with a vaccine that is 88% effective and a contagious disease like mumps. This does not mean that the vaccine is not working; in fact the mumps vaccine is working as expected. Another way of looking at this is that because of the vaccine, 84% of the people (88% of the 96 who are vaccinated=84 of 100 people in the community) did not get the mumps.*

Is there any danger to a person receiving additional vaccine (e.g., they have received MMR in the past but cannot find documentation)?

There is no danger to a person if they receive additional doses of vaccine even if they have had the disease in the past or have received previous doses of MMR in the past.